CLAIMS

1. Peptides, or fragments thereof, as stimulators of insulin secretion and pancreatic beta cell function, the, or each, peptide having at least 50%, preferably at least 80%, more preferably at least 90%, optionally more than 95%, sequence identity based on the ClustalW alignment method with the respective amino acid sequences of SEQ ID Nos. 1 to 17, the peptides having the following structures:

(a) **RRKPLFPFIPRPK** (peptide 1.10, *Agalychnis calcarifer*),
(f) **GKPFYPPPIYPEDM** (peptide 24, *Bombina variegata*),
(g) **IYNAICPCKHCNKCKPGLLAN** (peptide 25, *Bombina variegata*),
a peptide having the partial structure ---G-QWA-GH-M, the peptide being preferably selected from (d) **Pyr-QRLGHQWAVGHLM-amidated** (peptide 21, *Bombina variegata*) and (e) **Pyr-DSFGNQWARGHFM-amidated** (peptide 22, *Bombina variegata*),
(j) **ALSILRGLEKLAKMGIALTNCKATKKC** (peptide 3.8, *Rana palustris*),
a peptide having the partial structure FLP--AG-AA---PKIFC-I--KC, the peptide being preferably selected from (k) **FLPIIAGVAAKVFPKIFCAISKKC** (peptide 4.1, *Rana pipiens*) and (q) **FLPLLAGLAANFLPKIFCKITRKC** (peptide 8.3, *Rana saharica*),
a peptide having the partial structure A-WKD-LKN-GKAAGKAVLN-VTDMVN-, the peptide being preferably selected from (c) **AVWKDFLKNIGKAAGKAVLNSVTDMVNE** (peptide 2.9, *Agalychnis litodryas*) and (i) **ALWKDILKNVGKAAGKAVLNTVTDMVNQ** (peptide 2.10, *Phyllomedusa trinitatis*),
a peptide having the partial structure KG----LL--ASCKLS—C, the partial structure being preferably GIL—LK-FA—AGKG----LL—ASCKLSGQC, the peptide being more preferably selected from (l) **KGAAKGLLEVASCKLSKSC** (peptide 4.22, *Rana saharica*), (o) **GILSTIKDFAIKAGKGAAKGLLEMASCKLSGQC** (peptide 5.6, *Rana saharica*), (p) **GILLDKLKNFAKTAGKGVLQSLLNTASCKLSGQC** (peptide 6.5, *Rana saharica*),
a peptide having the partial structure GIFSK---KK-KNLLISGLKNVGKEVGMDVVRTGIDIAGCKIKGEC, the peptide being more preferably selected from (m)

GIFSKFGRKKIKNLLISGLKNVGKEVGMDVVRTGIDIAGCKIKGEC
(peptide 5.1 *Rana saharica*) and (n)
GIFSKLAGKKLKNLLISGLKNVGKEVGMDVVRTGIDIAGCKIKGEC
(peptide 5.4 *Rana saharica*),
(b) a peptide having the N-terminus sequence **MLADVFEKIMGD**... (N-terminus of peptide 1.7, *Agalychnis litodryas*) and
(h) a peptide having the N-terminus sequence **XXPLAPFFQAVFK**... (N-terminus of peptide 1.8, *Phyllomedusa trinitatis*).

2. Peptides selected from the group comprising brevinins, dermaseptins and esculentins for stimulating insulin secretion by activation of physiological stimulus-secretion coupling pathways, rather than by antimicrobial action involving cell lysis.

3. A peptide as claimed in claim 1 or 2 with at least one amino acid modification by insertion of fatty acid at the alpha amino group of native amino acid or an epsilon amino group of a substituted lysine residue.

4. A peptide as claimed in any one of claims 1, 2 or 3, having at least one amino acid substitution and/or modification including N-glycated, N-alkylated, N-acetylated, N-acylated, N-isopropyl, and / or N-pyroglutamyl amino acids.

5. Use of at least one peptide as claimed in any one of claims 1 to 4 in the preparation of a medicament to stimulate insulin secretion and / or moderate blood glucose excursions.

6. The use of at least one peptide as claimed in any one of claims 1 to 4 in the preparation of a medicament for treatment of type 1 or type 2 diabetes mellitus.

7. A pharmaceutical composition including at least one peptide according to any one of claims 1 to 4 in admixture with a pharmaceutically acceptable excipient.

8. A pharmaceutical composition useful in the treatment of obesity and/or type 2 diabetes which comprises an effective amount of at least one peptide as claimed in any of claims 1 to 4 in admixture with a pharmaceutically acceptable excipient, the

pharmaceutical composition being preferably for delivery through transdermal, nasal inhalation, oral or injected routes.

9. A pharmaceutical composition as claimed in claim 8 which further comprises at least one further pharmaceutically active agent, the, or each, further pharmaceutically active agent being preferably selected from one or more sulphonylureas, meglitinides, metformin, and/or thiazolidinediones, or a mixture thereof.